***Learning Targets***

***Chapter #2: Chemistry of Life***

***By the end of this unit, you should be able to:***

***Atomic Structure***

* Identify the subatomic particles, their location, and charges
* Know the differences between an element, molecule, and compound
* Explain the differences between ionic, covalent, and hydrogen bonds

***Water***

* Explain what is meant by the term polar
* Describe the type of bond that holds a water molecule together
* Explain the following properties of water
  + cohesion and surface tension
  + adhesion and capillary action
  + high specific heat
  + density of solid form
  + polarity

***Acids and Bases***

* Distinguish between acids and bases by their properties
* Use the pH scale to determine relative strengths of acids and bases

***Organic Compounds***

* State the difference between organic and inorganic compounds
* Identify the four organic compounds found in living things
* Explain the structure and function of organic compounds
* Give examples of carbohydrates, lipids, proteins, and nucleic acids
* State the building blocks of the organic compounds
* Identify the structure of a monosaccharide, triglyceride, amino acid and nucleotide
* Explain the differences between DNA and RNA

***Energy and Chemical Reactions***

* Define energy
* Define activation energy
* Relate energy and chemical reactions
* Define and explain the function of an enzyme
* Explain how enzymes work to speed up chemical reactions
* Define a substrate and an active site
* Explain what factors can affect the functioning of an enzyme

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